

REMARKS

The Action points out that claims 3, 4, and 29 contained superfluous matter that has now been deleted.

Claims 2-4 were rejected to as failing to comply with the written description requirement. Applicants cannot agree. Applicants wish to point out that, according to MPEP 2163.04, the description as filed is presumed to be adequate; unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. The Office Action merely states that "nowhere in the instant specification is it described how or with what process parameters the hydrolysis step is "controlled" in order to produce such a selected particle size distribution". Contrary to this premise, at least Examples 11 and 12, as well as paragraphs [0018] – [0025] and [0098] - [0106] provide adequate guidance to one skilled in the art to make and use the invention. Therefore, the Action does not provide a *prima facie* case of failure to meet the written description since it does not provide reasons why a person skilled in the art at the time the application was filed would not have recognized from at least Examples 11 and 12, as well as paragraphs [0018] – [0025] and [0098] - [0106] that the applicants were in possession of the invention as claimed in claim 24. Withdrawal of the rejection is proper and requested.

Several claims were rejected as being indefinite for lacking antecedent basis and for other minor grounds. The rejected claims have been amended to put them in better form without changing the scope of the claims. Therefore, it is believed that the rejections are now moot.

Claims 1, 2, 12, 13, 18-22 were rejected as being anticipated by Davis '418 (referring to cols. 3, 4, 6, 7). Applicants respectfully traverse. Davis does not disclose steps (c) and (d) of claim 1. Step (c) of present claim 1 requires "separating titanyl sulfate from the leach liquor of step (b). This step produces on the one hand separated titanyl sulfate and on the other hand residual leach liquor. In contrast, Davis discloses removing iron sulfate from the solution of iron sulfate and titanyl sulfate to provide a solution of titanyl sulfate. In other words, the process of Davis produces the products of (i) separated iron sulfate and (ii) residual leach liquor including titanyl sulfate. This is opposite of claim 1 in which step (c) requires separating titanyl sulfate from the leach liquor; whereas Davis teaches retaining titanyl sulfate in the residual leach liquor.

Claim 1 at step (d) then requires the subsequent step of hydrolyzing the separated titanyl sulfate. Because Davis does not separate titanyl sulfate in any preceding step, logically there is no disclosure of hydrolyzing the separated titanyl sulfate as required by step (d) of claim 1. In view of the fact that Davis does not teach or suggest, or even recognize the steps (c) and (d) of claim 1, Davis cannot and does not render obvious the rejected claims. Withdrawal of the rejection is proper and requested.

Claims 1-29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Davis. In addition, claims 24-28 were rejected as being unpatentable over Davis and Watanabe. As an initial matter, it is not seen how claims 24-28 can be rejected in view of Davis alone if it is latter admitted that the subject matter of claims 24-28 is not taught by Davis, necessitating the further rejection in view of Davis and Watanabe. Therefore,

it is assumed that claims 24-28 are rejected only under the combination of Davis and Watanabe.

Turning to the rejection of claims 1-29 under 35 U.S.C. 103(a), as an initial matter, as pointed out above, Davis does not teach or suggest steps (c) and (d) and thus cannot render obvious claim 1 and all the claims depending from claim 1, 2-28.

Moreover, with respect to all of the claims, the Office Action's statement that Davis "may differ" disregards the premise of the stated rejection under 35 U.S.C. 103, which necessarily admits that Davis does not teach or suggest all of the features required by the claims. Accordingly, the present response will assume that the Examiner admits that Davis does not teach or suggest forming a selected particle size distribution of hydrated titanium oxides from titanyl sulfate. The Examiner, however, concludes that the formation of a selected particle size would be inherent because the Davis process is identical or substantially identical to the claimed process.

That contention is false, as pointed out above. Because Davis does not separate titanyl sulfate from the leach liquor and thereafter hydrolyze the separated titanyl sulfate, Davis does not disclose or even suggest the identical or substantially identical process of claims 1 and 29. Because the premise is false, the conclusion is therefore false. Accordingly, the rejection cannot be maintained and Applicants respectfully request its withdrawal.

Claim 29 was also rejected under 35 U.S.C. 103(a) as being unpatentable over Collins or Holle. As an initial matter Collins describes a process for preparing gels and spherules rather than powders or granular forms (see col. 1, lines 12-20). Moreover, Collins does not teach or suggest any of leaching a titaniferous material with sulfuric

acid, forming a leach liquor that includes an acidic solution of titanyl sulfate and iron sulfate, thereafter separating titanyl sulfate from the leach liquor and thereafter hydrolysing the titanyl sulfate to form the claimed coarse particles. Because Collins does not teach or suggest a process that is identical or substantially identical to the claimed process, there can be no suggestion that Collins teaches the claimed titanium oxides.

As for Holle it too does not teach or suggest separating titanyl sulfate from the leach liquor and thereafter hydrolysing the titanyl sulfate to form the claimed coarse particles. Instead, it teaches decomposition of titanium raw materials using sulphuric acid, hydrolysis of the decomposing solution, and filtration of the hydrolysate. Because Holle does not teach or suggest a process that is identical or substantially identical to the claimed process, there can be no suggestion that Holle teaches the claimed titanium oxides. Therefore, the rejection should be withdrawn.

As for the rejection of claims 24-28, the stated premise of the motivation to combine Davis and Watanabe is false. The action states that it would have been obvious (i.e., one of skill in the art would have been motivated to combine Davis and Watanabe) because solvent extracting titanyl sulfate in the process of Davis avoids discharge of waste acid. In fact, the process of Davis already avoids discharge of waste acid in that spent acid (27) is concentrated in concentrator (28) and combined with fresh acid (12). In fact, Davis points out that

[a] significant advantage of the process of the present invention is that it reduces or even eliminates the severe "spent acid" disposal problem that is characteristic of the conventional sulphate process for the manufacture of titanium dioxide pigment. Specifically, the spent acid resulting from the digestion, crystallization and hydrolysis steps of the process are reprocessed or recycled for use in conducting the digestion

reaction with ilmenite ore. Thus, the process of the present invention is free or substantially free of waste spent acid.

In view of Davis' clear teaching that its process is free of or substantially free of waste spent acid, the premise for combining Davis and Watanabe does not exist. A *prima facie* case of obviousness has not and can not be established. Therefore, the rejection should be withdrawn.

With respect to the obviousness-type double patenting rejection, that will be addressed upon notification that the present claims are allowable.

It is believed that all the claims are in condition to be allowed. The Examiner is invited to contact the undersigned attorney for the Applicant via telephone if such communication would expedite allowance of this application. If, for any reason, the Examiner feels that the above amendments and remarks do not put the claims in condition for allowance, the undersigned attorney can be reached at (312) 321-4276 to resolve any remaining issues.

Respectfully submitted,



G. Peter Nichols
Registration No. 34,401
Attorney for Applicants

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200